

What is claimed is:

1. A reed valve comprising:  
a plate-shaped support substrate with a valve hole formed in a central section, the valve hole  
5 passing through the support substrate in a plate thickness direction; and  
a flexible plate-shaped reed covering the valve hole at one surface of the support substrate  
and having one end in a longitudinal direction that is fixed to the support substrate,  
wherein the support substrate has a rib extending along a center line in a longitudinal  
direction of the inside of the valve hole to divide the valve hole into two spaces, and  
10 a surface of the rib opposite to the reed is positioned on substantially the same plane as a  
surface of the support substrate to which the rib is attached and is adjacent to the reed.
2. The reed valve of claim 1, wherein the rib has a grooved section formed in a surface  
opposite to the reed and penetrating in a width direction of the rib, and the grooved section passes  
15 through a space inside the valve hole divided by the rib.
3. The reed valve of claim 2, wherein the grooved section is formed at a part of the rib that is  
closer to an end that is opposite to an end to which the reed is fixed.
- 20 4. The reed valve of any one of claim 1, wherein a surface of the rib opposite to a surface  
facing the reed is formed having a V-shaped cross section projecting outwards.
5. The reed valve of any one of claim 1, wherein the reed valve is attached inside a secondary  
air supply passage for supplying secondary air from an intake unit of an internal combustion engine  
25 to an exhaust port, with a surface to which the reed is attached facing towards the exhaust port side,  
and the reed valve is configured so that exhaust gas inside the exhaust port does not flow back to  
the intake device through the secondary air supply passage.

6. A reed valve assembly comprising:

a reed valve, provided with a plate shaped support substrate with a valve hole formed in a central section passing through in a plate thickness direction;

a flexible plate-shaped reed covering the valve hole at one surface of the support substrate and having one end in a longitudinal direction that is fixed to the support substrate; and

a reed valve cover forming an air intake pipe for supplying air for passing the reed valve, attached so as to cover a surface opposite to a surface to which the reed is attached,

wherein a rib extending from a surface facing the valve hole to the valve hole side is formed at an inner side surface of the reed valve cover.

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7. The reed valve assembly of claim 6, wherein, when the reed valve cover has been attached to the reed valve, there is a specified gap between the rib and the reed.

8. The reed valve of any one of claim 6, wherein the reed valve is attached inside a secondary air supply passage for supplying secondary air from an intake unit of an internal combustion engine to an exhaust port, with a surface to which the reed is attached facing towards the exhaust port side, and the reed valve is configured so that exhaust gas inside the exhaust port does not flow back to the intake device through the secondary air supply passage.

20 9. A reed valve comprising:

a support means with a valve hole formed in a central section, the valve hole passing through the support substrate in a plate thickness direction; and

a flexible reed means covering the valve hole at one surface of the support substrate and having one end in a longitudinal direction that is fixed to the support substrate,

25 wherein the support means has a rib extending along a center line in a longitudinal direction of the inside of the valve hole to divide the valve hole into two spaces, and

a surface of the rib opposite to the reed is positioned on substantially the same plane as a surface of the support means to which the rib is attached and is adjacent to the reed.